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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,785	02/28/2002	John A. Scott	112056-0048	8989
24267	7590	01/25/2006	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			CORRIELUS, JEAN M	
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DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/086,785	Applicant(s) SCOTT, JOHN A.	
	Examiner Jean M. Corrielus	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,3 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,4-14 and 16-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Request For Continued Examination (RCE) filed on October 14, 2005, in which claims 1-33 are presented for further examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 14, 2005 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 4 and 16 recites "a method for converting a file access data structure from a first endianness to a second endianness" in the preamble. However, the body of the claim

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has nothing to do with converting a file access data structure from a first endianness to a second endianness. There is no relationship between the body and the preamble of the claim. The preamble does not give live to the body of the claims. Applicant is advised to amend the claims to provide a link between the preamble and the body of the claims.

6. Claims 7 recite “method for converting a data structure from a first byte order to a second byte order” in preamble. The body of the claim has nothing to do with converting a data structure from a first byte order to a second byte order. There is no relationship between the body and the preamble of the claim. The preamble does not give live to the body of the claims. Applicant is advised to amend the claims to provide a link between the preamble and the body of the claims.

7. Claim 20 recites “a method for converting a data structure” and claim 26 recites “a system to convert a data structure” in the preamble. The body of the claim has nothing to do with converting a data structure. There is no relationship between the body and the preamble of the claim. The preamble does not give live to the body of the claims. Applicant is advised to amend the claims to provide a link between the preamble and the body of the claims.

8. Claim 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. Claim 4 recites “an output byte, the byte swapping engine placing the file access data structure in the output buffer after conversion”. However, there is no conversion that is performed in the claim. The omitted element is the conversion step that needs to be performed

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before the byte-swapping engine placing the file access data structure in the output buffer.

Applicant is advised to amend the claim to add the missing limitation into the claim.

Drawings

9. Applicants are required to furnish the formal drawings in response to this office action if ***the formal drawings have not been submitted***. No new matter may be introduced in the required drawings. Failure to timely submit a drawing will result in ABANDONMENT of the application.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1-10, 16-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, specifically, as directed to an abstract idea.

Claims 1-10 and 16-33 in view of **MPEP section 2106 IV.B.2. (b)** define non-statutory processes because they merely manipulate an abstract idea without a claimed limitation to a practical application. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Data structure not claimed as embodied in computer-readable media is descriptive material per SE and is not statutory because they are neither physical nor statutory processes. Structural and functional interrelationship with a general-purpose computer for permitting claimed functions to be realized are not provided in

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the claims. In contrast, a claimed system should define structural and functional interrelationships between data structures or functional parts and a computer system which permit the data functions to be realized, and is statutory. Thus, the claimed are rejected as being non-statutory. Additionally, the invention, as claimed, is directed to the manipulation of an abstract idea with no practical application in the technology arts.

The Supreme Court has repeatedly held that abstractions are not patentable. "An idea of itself is not patentable". Rubber-Tip Pencil Co. V. Howard, 20 wall. 498, 07. Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basis tolls of scientific and technological work Gottschalk V. Benson, 175 USPQ 673, 675 (S Ct 1972). It is a common place that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter Parker V. Flook, 197 USPQ 193, 201 (S Ct 1978). A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See In re Wamerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1754, 1759 (Fed. Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600,1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why

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the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Claims 1, 2, 4, 7, 16 and 20 represent an abstract idea, which do not provide a practical application in the technological arts. There is no post computer process activity is found in the technological arts. The system, and method for converting a file access data structure from a first endianness to a second endianness is not a physical transformation. Thus, no physical transformation is performed, no practical application is found in the claims. Such converting file access as claimed can be done in a piece of paper. Also, the claims do not appear to correspond to a specific machine or manufacture disclosed within the specification and thus encompass any product of the class configured in any manner to perform the underlying process, and are thus rejected as being directed. Claims 1, 2, 4, 7, 16 and 20 are not **tangibly embodied** in a manner so as to *be executable* as the only hardware is in an intended use statement. Therefore, claims 1, 2, 4, 7, 16 and 20 are directed to an abstract idea that is not tied to a technological art, environment

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or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Applicant is advised to amend the claims by specifying the claim being directed to a practical application and producing a tangible result **being executed** by a general-purpose computer in order to correct the above indicated deficiencies.

The dependent claims 3, 5, 6, 8-10, 17-19 and 21-25 are rejected for fully incorporating the errors of their respective base claims by dependency. Thus, claims 3, 5, 6, 8-10, 17-19 and 21-25 are merely abstract idea and are being processed without any links to a practical result in the technology arts and without computer manipulation. They are not **tangibly embodied** in a manner so **as to be executable** as the only hardware is in an intended use statement.

Claim 33 is non-statutory as not being tangibly embodied in a manner so as to be executed and is non-statutory for failing to be in one the categories of invention. The claim recites nothing but the physical characteristics of the form of energy, such a frequency, voltage, or the strength of magnetic field, define energy or magnetism. It appears that the claim does not reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in 101 section.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hotchkin US Patent no. 5,727,218.

As to claim 1, Hotchkin discloses a processor that can access buffer memory using addresses in processor region, wherein the memory defines as little endian and big endian. The term endian as disclosed by Hotchkin refers to the sequence in which multi byte word is transferred. Hotchkin discloses the ability to change endianness by reading from one region and writing to another is useful when dealing with commands or status information or it is useful when reading from or writing to disk drives that may be formatted differently (col.5, lines 40-55). In particular, Hotchkin discloses the claimed “identifying, from a descriptor look up table, a series of actions to perform on elements of the file access data structure”, when the host has an operation to perform, the driver writes the preliminary information into the mailboxes and doorbell register and determine what operation to be performed and how much data is to be transferred and where in the host memory data is located or to be stored (col.6, lines 50-56); and “performing the identified series of actions on the elements of the file access data structure” (col.7, lines 11-31).

14. Claims 4-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lindenstruth US Patent no. 6,067,595.

As to claim 4, Lindenstruth discloses the claimed “an input buffer, the input buffer storing the file access data structure to be converted” (col.8, lines 23-30); “a byte swapping engine, the byte swapping engine operative interconnected with a descriptor table” (col.10, lines 42-53); and “an output buffer, the byte swapping engine placing the file access data structure in the output buffer

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after conversion” (col.10, lines 53-62). Such system of Lindenstruth allows page-by-page conversion

As to claim 5, Lindenstruth discloses the claimed “a set of entries describing various file access data structures, each entry further comprising a size field and an operation field” (col.10, lines 49-53; col.11, lines 1-21).

As to claim 6, Lindenstruth discloses the claimed “wherein the file access data structure further comprises a direct access file access data structure” (col.2, lines 21-22; col.9, lines 29-31).

As to claim 7, Lindenstruth discloses the claimed “reading an element entry from a descriptor table” (col.10, lines 2-17 and 25-40); “performing an action on an element of the data structure, the action being defined in the element entry read from the descriptor table” (col.10, lines 25-50); and “placing the element in an output buffer” (col.10, lines 53-62).

As to claim 8, Lindenstruth discloses the claimed “copying the element from an input buffer to the output buffer” (col.10, lines 53-62).

As to claim 9, Lindenstruth discloses the claimed “byte swapping the element” (col.10, lines 42-53).

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As to claim 10, discloses the claimed “a field describing a size of the element and a field describing an action to be performed” (col.10, lines 2-14).

As to claim 11, Lindenstruth discloses the claimed “a byte swapping engine, the byte swapping engine performing a defined operation on each of a plurality of elements of a file access data structure” (col.10, lines 42-50).

As to claim 12, Lindenstruth discloses the claimed “a descriptor look up table, the descriptor look up table having a plurality of entries, each of the plurality of entries associated with a specific file access data structure” (10, lines 25-33).

As to claim 13, Lindenstruth discloses the claimed “a plurality of elements, each of the elements having a size field and an operation field” (col.11, lines 8-14).

As to claim 14, Lindenstruth discloses the claimed “wherein the defined operation is defined by the operation field of the entry associated with the file access data structure” (col.11, lines 5-21).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 7-14 and 16-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotchkin US Paten no. 5,727,218 and Lindenstruth US Patent no. 6,067,595.

As to claim 20, Lindenstruth discloses the claimed “calling a byte-swapping engine” (col.10, lines 42-48); “providing a file access data structure as input to the byte-swapping engine” (col.10, lines 25-40); “providing a descriptor look up table to the byte-swapping engine” (col.10, lines 42-53). However, Lindenstruth does not explicitly disclose the claimed features “identifying, from the descriptor look up table, a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness”; and “performing the identified series of actions on the elements of the file access data structure”. On the other hand, Hotchkin discloses the claimed “identifying, from the descriptor look up table, a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness” when the host has an operation to perform, the driver writes the preliminary information into the mailboxes and doorbell register and determine what operation to be performed and how much data is to be transferred and where in the host memory data is located or to be stored (col.6, lines 50-5673); and “performing the identified series of actions on the elements of the file access data structure” (col.7, lines 11-31). Therefore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of cited references, wherein the look up table of Lindenstruth would include a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness. One having ordinary skill in the art would have found it motivated to use such a combination for the purpose of allowing the processor to move information between two locations in the buffer memory and the changing the byte ordering at the same time.

As to claim 21, Hotchkin discloses the claimed “using as the tile access data structure a file having Direct Access File System” (col.6, line 59).

As to claim 22, Hotchkin discloses the claimed “determining if the file access data structure is a critical path data structure, and if it is, perform byte swap operations using specific code functions” (col.5, lines 58-63).

As to claim 23, Hotchkin discloses the claimed “determining if the file access data structure is a critical path data structure, and if it is not, perform byte swap operations on a data structure header” (col.6, lines 50-65).

As to claim 24, Hotchkin discloses the claimed “swapping bytes of the data structure as needed, in response to swapping bytes of the file access data structure” (col.7, lines 5-31).

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As to claim 25, Lindenstruth discloses the claimed “determining if an element entry of the descriptor look up table is nested” (col.10, lines 42-53); “branching to the nested entry” (col.10, lines 42-53). However, Lindenstruth does not explicitly disclose the claimed features “identifying, from the descriptor look up table, a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness”. On the other hand, Hotchkin discloses the claimed “identifying, from the descriptor look up table, a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness” when the host has an operation to perform, the driver writes the preliminary information into the mailboxes and doorbell register and determine what operation to be performed and how much data is to be transferred and where in the host memory data is located or to be stored (col.6, lines 50-56). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of cited references, wherein the look up table of Lindenstruth would include a series of actions to perform on elements of the file access data structure in order to swap bytes of the file access data structure from a first endianness to a second endianness. One having ordinary skill in the art would have found it motivated to use such a combination for the purpose of allowing the processor to move information between two locations in the buffer memory and the changing the byte ordering at the same time.

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As to claim 16, Hotchkin discloses the claimed “determining a type of the file access data structure” (col.7, lines 11-31; col.6, lines 50-56); “processing, in response to the file access data structure of being of a first byte, the file access data structure along a first processing path” (col.7, lines 11-31; col.6, lines 50-56). However, Hotchkin does not explicitly disclose the use of “processing, in response to the file access data structure being of a second type, the file access data structure along a second processing path”. On the other hand, Lindenstruth discloses the claimed “processing, in response to the file access data structure being of a second type, the file access data structure along a second processing path” (col.10, lines 42-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of cited references, wherein the mailboxes of Hotchkin would incorporate the use of placing the element in an output buffer. One having ordinary skill in the art would have found it motivated to use the endian byte swapping bit of Lindenstruth into the system of Hotchkin for the purpose of efficient transferring data needed to be endianness manipulated or converted.

As to claim 17, Hotchkin discloses the claimed “a critical path data structure” ” (col.7, lines 11-31).

As to claim 18, Hotchkin discloses the claimed “a set of specifically coded functions”(col.7, lines 5-30).

As to claim 19, Lindenstruth discloses the claimed “byte-swapping engine” (col.10, lines 42-43).

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As to claims 26-31:

Claims 26-31 are the system of claim for performing the method of claims 20-25. They are, therefore, rejected under the same rationale.

As to claim 32

Claim 32 is a computer program of claim for performing the method of claim 20. It is, therefore, rejected under the same rationale.

As to claim 33:

Claim 33 is an electromagnetic signal of claim for performing the method of claim 20. It is, therefore, rejected under the same rationale.

Allowable Subject Matter

17. Claims 2-3 and 15 are allowable over the prior art of record.

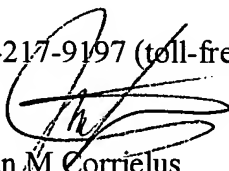
Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jean M Corrielus
Primary Examiner
Art Unit 2162

January 19, 2006